

# MANAGING COUNTERPARTY RISK

BlackRock Solutions

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## Executive summary

When an investor enters into an over-the counter ('OTC') derivative trade they take on the risk that their counterparty will default, causing the loss of market exposure and potentially any unrealised gain from open derivative contracts. Prudent management of this 'counterparty risk' through measures including active collateral management can help minimise the amount of unrealised gain at risk of loss in the event of default. The cost to replace the lost exposure with an alternative counterparty could be high, both in terms of transaction costs and the opportunity cost associated with the lost exposure.

Counterparty risk management has taken a prominent position on the agenda of many investors as the financial crisis highlighted the potential for significant losses. Actions by the major global credit rating agencies, including both Standard & Poor's and Moody's Investor Service, of cutting the long and short term credit ratings of Global Capital Market Intermediaries has focused attention on both the counterparties with whom investors trade OTC derivatives and the legal parameters that govern the transactions.

After reviewing the current methods by which some investors monitor, and reduce as far as possible, these risks, we highlight a number of more recent developments that could help to mitigate these risks yet further.

## Introduction

In February 2012 Moody's Investors Service ('Moody's') placed the credit ratings of 114 European banks and 17 Global Capital Market Intermediaries on review for potential downgrade. On 21 June Moody's concluded their actions by announcing the rating downgrades of 15 banks and securities firms with global capital markets operations between one and three notches.

Figure 1 shows the Moody's Long Term ratings of various banks from 2008 to mid-2012, including the ratings following the recent downgrades.

FIGURE 1

	June 2008	June 2009	June 2010	June 2011	June 2012
Goldman Sachs Group Inc.	Aa3	A1	A1	A1	A3
Lehman Brothers	A1				
Royal Bank of Scotland Plc	Aa1	Aa3	Aa3	Aa3	A3
Deutsche Bank AG	Aa1	Aa1	Aa3	Aa3	A2
Morgan Stanley	Aa3	A2	A2	A2	Baa1
HSBC Bank Plc	Aa1	Aa2	Aa2	Aa2	Aa3
Barclays Bank Plc	Aa1	Aa3	Aa3	Aa3	A2

  

Aa1	Aa2	Aa3	A1	A2	A3	Baa1
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“... it is vital that investors are aware of the counterparty risks that they are taking when using OTC derivatives and understand the methods by which those risks can be managed and mitigated.”

These and other investment banks act as counterparties in many different OTC derivatives used by investors. As shown in Figure 1, this rating action by Moody's is the latest in a series that started soon after the onset of the financial crisis in 2008.

With these downgrades as a background, it is vital that investors are aware of the counterparty risks that they are taking when using OTC derivatives and understand the methods by which those risks can be managed or mitigated.

In the event of a counterparty default, the two foremost risks that investors in OTC derivatives face are:

- ▶ the loss of any positive unrealised mark to market gain; and
- ▶ the loss of the market risk exposure and consequent replacement costs ('replacement risk').

One of the key tools used in the management of counterparty risk is the legal documentation under which transactions are effected. The International Swaps and Derivatives Association, Inc is the global trade association for OTC derivatives and maintains the industry standard ISDA Master Agreement documentation ('ISDA'). The ISDA is an umbrella agreement to trades for all OTC derivatives between two counterparties.

The legal terms of the ISDA and the Credit Support Annex ('CSA') to the ISDA may include the exchange of collateral to mitigate against the payment of any future unrealised mark to market gain. These documents may also include details of any default and termination triggers including Additional Termination Events ('ATEs') and cross default provisions to help safeguard against deteriorating credit quality of counterparties.

Investors can also manage their counterparty risk by taking account of information beyond published credit ratings and executing investment policies to diversify existing OTC derivative exposure across multiple counterparties.

## Managing counterparty risk – the assumed market standard

### Collateralisation of unrealised loss or gain

Collateralisation is a process where an OTC derivative is valued and assets equal to (or greater than) the value of the unrealised loss or gain are exchanged between counterparties. The collateral management process is governed by the terms of the CSA, in the case of an ISDA, which will include the valuation frequency for an OTC derivative and any collateral held (for example daily or weekly), the minimum amount due that must be due before collateral is required to be transferred between counterparties (the 'minimum transfer amount') and the details of the valuation 'haircuts' that are applied to each eligible collateral security type.

In the event that either counterparty defaults, the non-defaulting counterparty will have the right to sell any collateral it holds in order to cover the value of any unrealised gain of the OTC derivative(s). In such case, the exposure to the defaulting party is reduced or mitigated where the market value of the derivative is not more than the value that can be realised upon sale of the collateral.

The most appropriate measure of this risk is related to the size of the unrealised gain that remains uncollateralised at any time. To minimise this risk, it is preferable to specify a daily calculation of the derivative and collateral market value, daily collateral exchange, low minimum transfer amounts and the inclusion of only the highest quality and most liquid eligible collateral (for example cash or high quality government bonds) in the terms of the CSA. The

**FIGURE 2**

Risk	Description	Mitigation
Loss of unrealised gain	Hold insufficient collateral or have pledged surplus collateral to the counterparty at the time of a counterparty default	<ul style="list-style-type: none"> <li>▶ Collateralise daily</li> <li>▶ Reduce minimum transfer amount</li> <li>▶ Agree independent amount</li> <li>▶ Centrally clear derivatives</li> </ul>
	Unable to sell collateral when a counterparty has defaulted	<ul style="list-style-type: none"> <li>▶ Specify high quality assets to be used as collateral</li> <li>▶ Agree haircuts</li> </ul>
Replacement risk	Costs incurred when replacing market exposure	<ul style="list-style-type: none"> <li>▶ Increase number of eligible trading counterparties</li> <li>▶ Limit size of a single counterparty exposure (by percentage of liability or matching portfolio PV01)</li> <li>▶ Centrally clear derivatives</li> </ul>

CSA should also include appropriate valuation haircuts to minimise the risk that market volatility leads the market value of the OTC derivative to be higher than the value of the collateral held.

### Diversified counterparty exposure

If a counterparty did default most investors would not want to lose their exposure to the market and would therefore seek to replace lost exposure with other counterparties. If the size of the position with the defaulting counterparty is significant, it may not be possible to regain the exposure immediately. Having a diversified list of counterparties with full trading documentation agreed would allow the risk to be spread and diversified.

For fixed income instruments, the loss or gain that an investor would bear between the point at which they lose their exposure and the time at which they can implement replacement trades typically depends on the size of the market move in that time multiplied by the exposure (measured in value per basis point, or 'PV01').

For interest rate and inflation swaps the most appropriate measure is therefore the PV01 of the exposure with a particular counterparty. At its simplest this is the net interest rate or inflation PV01 across all positions in the portfolio<sup>1</sup>. The approach should be generalised across all derivatives in the portfolio (for example taking into account the interest rate or inflation PV01 from repo transactions and total return swaps).

This replacement risk can then be managed by setting limits on the size of PV01<sup>2</sup> exposure with each counterparty. It is recommended that these limits are set in the context of the size of the liabilities or the matching portfolio, in the same way that restrictions on holdings of individual corporate bonds are often reflected in investment management agreements.

### Additional termination events

An Additional Termination Event ('ATE') is a clause in the ISDA that grants a party the right, but not the obligation, to terminate open OTC derivative transactions upon the occurrence of some event. Many ISDAs contain, for example, an ATE which specifies that if one party is rated below a specific credit rating level, the other party would have the right, but not the obligation, to terminate open transactions.

In addition to credit rating based ATEs, ISDAs can also include cross-default provisions for specified affiliate entities of the counterparty. Inclusion of such provisions mean that certain events of default for a specified related entity also gives the right, but not the obligation, to terminate open transactions.

Credit rating based ATEs became a popular part of the ISDA documentation at a time when counterparties did not envisage credit ratings at current levels. As a result counterparties have shown reluctance to include these terms when negotiating new ISDAs.

## Managing counterparty risk – the ‘new’ higher standard

### Additional credit support

Investors can negotiate additional credit support mechanisms with counterparties such as the posting of an Independent Amount of collateral (‘IA’) or the provision of a guarantee from a parent entity or third party. Historically, IA has been included as part of an OTC derivative transaction on a unilateral basis in favour of the investment bank counterparty. Recent market events have improved the negotiating position of investors and in certain circumstances this can now be agreed in their favour.

From the perspective of an investment bank counterparty, the options implicit in agreeing to IA, additional guarantees and ATE triggers are capital intensive and difficult to price, and they are therefore reluctant to agree documentation that features these clauses.

One way in which some investors are looking to negotiate these support mechanisms is to agree that posting IA would become effective at the level of an existing credit rating ATE in exchange for moving the termination trigger to a lower credit rating level.

### Central clearing

One of the main aims of the introduction of a central counterparty (‘CCP’) is the mitigation of a large part of the counterparty and systemic risks involved with OTC trades.

In the centrally cleared model<sup>3</sup>, the trade is still executed in a similar way to a bilateral OTC transaction, but each counterparty now affirms the trade to a clearing broker, with many investment bank counterparties acting as their own clearing broker. Once the trade is affirmed it is accepted for central clearing by the CCP. The clearing broker therefore has exposures with the CCP exactly equal to its client’s exposures. Because of the ‘pass through’ of risk, the original counterparties to the trade bear counterparty risk to the CCP.

In the event that a clearing broker defaults, investors could transfer their positions and collateral to an alternative clearing member subject to the agreement of the new clearing member. This process, known as ‘porting’, allows an investor to maintain their market exposure and collateral position even after the default of their primary clearing broker. Clearly, strong asset segregation is key to client asset protection within central clearing.

While interest rate swaps are expected to be the first products subject to mandatory central clearing (and many CCPs are making progress to begin clearing these products), inflation swaps and total return swaps are not currently expected to be eligible in the near future.

Central clearing will also introduce the requirement for both counterparties to post an amount of initial margin (‘IM’) to the CCP in addition to any daily variation margin (this is analogous to the collateralisation process detailed above). Similar requirements for IM to be posted for ineligible products are currently being drafted with a possible outcome that IM may be posted by both counterparties to a third party.

### ‘Narrow’ CSAs

By changing all current ISDAs and CSAs with counterparties to allow only cash, or possibly cash and high quality government bonds to be used as collateral novation of swaps between counterparties can be made easier and quicker should an investor or their investment manager wish to move exposure away from a counterparty. This is due to the lack of market convention for the valuation of derivatives that do not use narrow CSAs<sup>4</sup>. In addition, these instruments are eligible to be used as initial and variation margin in a central cleared model<sup>5</sup>, and a transition to this model would be easier. Finally, having high quality collateral (or even cash) means that the collateral can be liquidated quicker and with a lower transaction cost if needed.

*“One of the main aims of the introduction of a central counterparty is the mitigation of a large part of the counterparty and systemic risks involved with OTC trades”*

<sup>1</sup> The extent to which interest rate PV01 and inflation PV01 can be netted will depend on a number of factors (including the correlation of these two risk factors) but the most conservative measure would be to not allow any netting between these two fixed income exposures (or indeed any other OTC derivatives that are in an investor’s portfolio).

<sup>2</sup> Or appropriate metric for other asset classes.

<sup>3</sup> See ‘Central Clearing in Europe – An Investor’s Perspective’. July 2012.

<sup>4</sup> See ‘Changes to the CSA landscape and the effect of recouping’. February 2012

<sup>5</sup> Asset eligibility is decided by the central counterparty (‘CCP’) itself but subject to regulatory approval to ensure a financial incentive isn’t gained by broadening the scope. Variation margin must currently be cash only. Initial margin will be limited to stable high quality government bonds.

## Independent counterparty risk management

As shown in Figure 1, shortly before the default of Lehman Brothers credit rating agencies rated Lehman debt as investment grade. The Lehman's default occurred with little notice or warning from these agencies. Clearly, the extent to which credit ratings are used mechanically for counterparty risk management without an element of discretion or input from an investment manager must be considered.

Many investment managers have their own dedicated and independent counterparty risk management teams that are functionally separate from portfolio management teams. With strong policies and procedures in place to review each counterparty legal entity independently, a full understanding of the credit quality of each counterparty can be established beyond the scope of just using the published credit ratings.

A number of investment managers use in-house legal resources to negotiate their own agency ISDA documents within which investor clients can elect to have their mandates included. The benefit of this option to the investor is the increased negotiating leverage that a large investment manager may have when the more contentious terms of the ISDAs described above are negotiated.

The investment manager may be best placed to manage the economic exposures in a portfolio, as well as manage the mix of counterparties from which that exposure is gained. The investment manager could be able to manage the exposures should their view on a counterparty change (for reasons not limited to a ratings downgrade).

## Conclusion

When investors gain exposure to a market via derivatives they bear counterparty risk: that if the counterparty were to fail, the cashflows from that contract may not be honoured. Not only can the investor lose any unrealised gains (or losses) but they may have to replace the market exposure by entering into further derivatives. Whilst the frequent exchange of highly liquid assets as collateral can mitigate the loss of unrealised gains, the risk of having to replace exposure, presumably at a time of high volatility, could be costly.

In a fixed income context the appropriate risk metric for replacement risk is the PV01 of the trades with a particular counterparty. The PV01 should be viewed in the context of either the PV01 of the liabilities or the matching portfolio. Clearly, adding to the range of eligible trading counterparties will allow the diversification of these risks.

The introduction of central clearing will help mitigate an element of the counterparty risk, however, this is still some time away for all but the most vanilla derivatives.

For OTC derivatives the key considerations of the investor in relation to managing counterparty risk are; access to a diversified range of trading counterparties, the quality of legal documentation under which transactions are governed (with particular focus on the protections afforded to the investor when the credit quality of the counterparty declines); the quality of the credit support provided within the documentation (particularly the specified eligible collateral) and; taking advantage of opportunities for the investment manager to manage the counterparty risks at a total portfolio level.

## Next Steps

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- ▶ Email: [institutional.enquiries@blackrock.com](mailto:institutional.enquiries@blackrock.com)
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Email: [institutional.enquiries@blackrock.com](mailto:institutional.enquiries@blackrock.com)

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